

IN THE CLAIMS:

Please **amend claim 7**, and **add claims 13-21** as follows:

1. (Original) A method of monitoring and restoring a communications network, comprising the steps of:

receiving a data stream encoded with a transmission code;  
decoding the data stream to determine a performance metric based on a number of transmission code violations; and  
restoring the performance of the network in response to the performance metric.

Q2 2. (Original) The method of claim 1, including the step of:  
generating an error rate based on the number of transmission code violations for use as the performance metric.

3. (Original) The method of claim 1, including the step of:  
generating a switch signal in response to the performance metric exceeding a predetermined value.

4. (Original) The method of claim 3, including the step of:  
transferring the data stream from a first link to a second link in response to the switch signal.

5. (Original) The method of claim 2, wherein the step of generating an error rate includes the step of:

dividing a number of transmission code violations by a predetermined period of time.

6. (Original) The method of claim 2, wherein the step of generating an error rate includes the step of:

dividing a number of transmission code violations by a predetermined number of data frames.

7. (Currently amended) A system for monitoring and restoring a communications network, comprising:

a first network element, comprising:

AR a transmitter having an encoder coupled to receive a data stream, the encoder for encoding the data stream with a transmission code;

a switch coupled to receive the encoded data stream from the transmitter, the switch coupled to a switch signal for switching the encoded data stream from a first link to a second link;

a second network element coupled to the first network element via the first and second links, comprising:

a receiver having a decoder coupled to receive the encoded data stream from the first network element, the decoder for decoding the encoded data stream and determining a number of transmission code violations; and

a monitoring module coupled to receive the number of transmission code violations from the receiver, the monitor module for determining a performance metric based on the number of transmission code violations, and for providing a the switch signal to the switch in the first network element if the performance metric exceeds a predetermined value.

8. (Original) The system of claim 7, wherein the performance metric is an error rate determined from the number of transmission code violations.

9. (Original) The system of claim 7, wherein the transmission code is an 8B/10B code.

10. (Original) The system of claim 7, wherein the transmission code is an 4B/5B code.

11. (Original) The system of claim 7, wherein the communications network is a Gigabit Ethernet.

12. (Original) The system of claim 7, wherein the switch signal is coupled to a third network element in a second communications network.

**13.** (New) A system for monitoring and restoring a communications network, comprising:

a first network element, comprising:

means for transmitting a data stream encoded with a transmission code; and

means for switching the encoded data stream between at least a first link and a second link based on a switch signal; and

a second network element, comprising:

means for receiving the encoded data stream via the first or the second link;

means for determining a number of transmission code violations;

means for determining a performance metric based on the number of transmission code violations; and

means for providing the switch signal based on the performance metric.

**14.** (New) The system of claim **13**, wherein the means for providing the switch signal provides the switch signal if the performance metric exceeds a predetermined value measured over one or more predetermined measurement standards.

15. (New) The system of claim 14, wherein the predetermined measurement standards include a predetermined period of time and a predetermined number of data frames.

16. (New) The system of claim 13, wherein the performance metric is an error rate of the transmitted encoded data stream.

GA 17. (New) A method of monitoring and restoring performance between a first network element and a second network element, wherein the first and second network elements are coupled to each other via at least a first link and a second link, the method comprising:

transmitting a data stream from the first network element to the second network element via the first link;

detecting transmission code violations occurring on the first link;

determining a performance metric based on the transmission code violations; and

switching transmission of the data stream from the first network element to the second network element to the second link based on the performance metric.

**18.** (New) The method of claim **17**, wherein the step of switching transmission comprises:

determining a value of the performance metric over one or more predetermined measurement standards; and

switching the transmission to the second link if the value of the performance metric exceeds a predetermined value.

*Q2* **19.** (New) The method of claim **18**, wherein the predetermined measurement standards include a predetermined period of time and a predetermined number of data frames.

**20.** (New) The method of claim **17**, wherein the data stream is encoded with a transmission code.

**21.** (New) The method of claim **20**, wherein the performance metric is an error rate of the transmitted encoded data stream.

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